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THE NEED FOR SUBCONTRACTING AND REGIONAL SELF-SUFFICIENCY IN THE SOVIET MACHINE-BUILDING INDUSTRY

I. S. Maksimov, Engineer

Machine building in the USSR is based on a highly evolved system of specialization and large-scale cooperation not only among various branches of industry but among enterprises within a given branch.

Plant specialization, a form of social division of labor which arises at a certain stage in the socialization of production, is realized in different ways under socialist and capitalist conditions of economy. Under capitalism, the nature of specialization and the reciprocal relations between plants are determined by the fundamental laws of capitalist economy and reflect completely the basic contradictions in the capitalist method of production. Anarchy, or the absence of planning in production, earmarks the contradiction between the social nature of production and the individualistic nature of acquisition.

In his pursuit of profit, the capitalist tries to adapt the production process to the exigencies of the market, to the frequently changing relationship between supply and demand. The erratic nature of this market and the competitive struggle keep capitalist production in a constant state of delirium. The contradiction between expanding production and the curtailment of purchasing power in the population grows ever more acute.

Branch specialization under capitalism means increased concentration of production, and along with it further sharpening of all the capitalist -- especially class -- contradictions, continuous growth of unemployment, and impoverishment of the working people. In capitalist automobile and aircraft industries, where the production of machine parts and units is carried on simultaneously on a broad front in many enterprises, the contradictory interests of capitalist monopolies cause frequent standstills in this production field and create serious difficulties for the main assembly plants. For example, when the Kaiser-Frazer Company set out to equip its automobile assembly shops,

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it encountered immediate opposition from the "Big Three" (Chrysler, General Motors, and Ford) and the subcontracting production circles connected with them. As a result, for a long time it was unable to obtain the necessary types of steel, parts, units, and semifinished goods produced by plants which are controlled by the "Big Three."

In his speech on the 25th anniversary of the October Revolution, Stalin said: "Our military plants and their subcontracting enterprises are faultlessly supplying the Red Army with equipment, mine sweepers, aircraft guns, tanks, machine guns, rifles and ammunition." The fact that Stalin singled out the military subcontracting plants for special mention points not only to their great and responsible role in the country's economy but also to the extent of their cooperation.

Cooperation in the sense of production ties between machine-building enterprises for the production of machine parts, units, and semifinished products is realized through an intradepartmental (intraministerial) process. It embraces an ever-increasing number of machine-building plants. It involves a constant growth not only in commodity cooperation, as when subcontracting plants supply parts and units, but also technological cooperation, as when semifinished products (castings, forgings, etc.) are produced in accordance with specifications given by the clients. Cooperation in the machine-building industries has assumed very sizable proportions and takes the two following forms:

First, cooperation takes place between principal plants putting out ready-made machines and plants which specialize in the production of individual parts and units and which put out standard items such as bearings, pumps, and electric motors by the conveyer or series method. This type of product is, naturally, better in quality and less costly than similar items produced in the consumer plants.

Secondly, cooperation occurs between plants which produce analogous or similar parts and units, as well as castings, forgings, and moldings. In this case the object is to utilize more fully the plant's potential.

By way of example, certain machine-building plants put out machines in cooperation with machine-tool building plants, which supply the former with various parts and units. Machine-building plants, in turn, supply other plants with large and complex castings, forgings, and finished parts and units.

In the production of trolley cars, one Moscow plant cooperates with 17 other plants in the city which are under different ministries, and receives from them in turn 52 important types of parts and units (traction motors, pressure regulators, master switches, automatic devices, cranes, compressors, rubber hose, brackets, levers, bearings, brakes, etc.)

To produce escalators for the subway, one of the leading plants cooperates with 18 machine-building plants, receiving from them 40 different products. Another plant, which produces the escalator steps, cooperates in turn with nine machine-building plants.

Cooperation is of great importance in the electrical industry and in the production of large forgings, which have been machined or heat-treated, for the manufacture of turbo- and hydrogenerators.

When plant managements and ministries exercise proper care in filling orders for parts and units, placed by way of cooperation, such items are produced on time, which helps the leading plants to maintain production schedules and to lower production costs. For example, the majority of the plants of the Ministry of Machine-Tool Building turn out on time parts and units for heavy-machine

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building plants. Many plants of the Ministry of Machine and Instrument Building are prompt in filling orders for parts and units for mine elevators. This is also true of the plants of the Ministry of Transport-Machine Building, which produce automatic couplers, brakes, etc. The plants of the Ministry of Automobile and Tractor Industry completed the plan for cooperative supplies of parts and units for self-propelled combines 100 percent. The Novo-Kramatorsk Plant imeni Stalin is successfully filling the orders placed by plants of other ministries for anvil blocks.

At the same time, certain plants fail to produce on time the items ordered under the cooperation system. This obliges the consumer plants to organize production of such items on their own premises, which leads to unnecessary expenditures. For example, one of the Sverdlovsk plants has failed to make satisfactory delivery of a number of products to the Uralmash Plant, obliging the latter to produce these items on its premises, which was not provided for in the plan.

A matter of extreme importance for the machine-building industry is the organization of cooperation within economic regions. A decision of the 18th Congress of VKP(b) emphasized the need for intraregional cooperation and the elimination of shipments over long distance. Despite this decision and because of a departmental approach to this question, such shipments still take place. Ministries fill their cooperation assignments without regard for regional needs and capacities for production of castings, forgings, and semifinished products in plants under their jurisdiction, which may be located very long distances from one another. For example, a plant of the Ministry of Machine and Instrument Building, which is located in Penza Oblast, received in 1948 up to 800 tons of iron clock pendulums from the Tashkent and Podol'sk machine-building plants, while one of the plants in the same oblast has the material and experience to produce such pendulums.

One plant of the Ministry of Construction- and Road-Machine Building in the Udmurt ASSR received 300 steel castings for reduction gears from eight different plants located in other oblasts, whereas it could have obtained them from plants of a different ministry located in the same oblast.

The results of intraregional cooperation are best illustrated by the fact that during the war, Ural combat vehicles were equipped with machine guns, motors, bearings, electric wiring, radio equipment, and rubber and plastic parts produced in the Urals.

Lately, many enterprises under different ministries have established proper reciprocal relations from the view-point or regional cooperation and utilization of available potential. For example, the Sverdlovsk Uralmash Plant cooperates with another plant in the same city, supplying it with castings and forgings, which the latter turns into parts and units for Uralmash. In this instance, Uralmash, which has large-sized equipment, receives comparatively samll parts while the other plant, which has small-type equipment and inadequate billet shops, receives the necessary billets from Uralmash.

A recent tendency is to use standard parts and units of automobiles, trucks, and tractors in designs for other types of machines. This tendency is particularly strong in the production of self-propelled combines, mowers, cotton pickers, flax combines, power saws, compressors, trolley busses, streetcars, etc. Obviously, the question arises whether plants should not be established for the production of motors, rear axles, steering wheels, transmissions, automobile and truck wheels, cardan shafts, springs, carburetors, and other parts. Of course, the creation of such plants can only be justified if they are to use the conveyer or series method of production. The country needs such plants in large numbers.

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Many branches of the national economy, in particular the oil, timber, and chemical industries, are in great need of gears and reducing gears. Moreover, a number of plants producing machines with reduction gear transmissions are not equipped to produce profitably gears of good quality on their own premises. Therefore, a number of specialized plants or shops ought to be organized for the production of gears and reduction gears. Inasmuch as these plants will be able to put out only standardized gears, machine-building plants requiring such gears must coordinate their machine designs with the products of these specialized plants.

The growing volume of machine building has created a need for various types of hydraulic equipment. The plants of the Ministry of Machine-Tool Building produce such equipment including pumps, but they serve exclusively the plants of this ministry. Yet, there is a great need for such equipment in the plants of other ministries, in particular the Ministry of Heavy Machine Building, which puts out metallurgical, ore-mining, oil-mining, and other types of equipment. Plants producing this hydraulic equipment must be expanded, and others must be built.

In the near future, it will be necessary to establish a number of specialized plants for the production of roller-and-bushing chains in the ministries of Agriculture and Automobile and Tractor Industry, which are the principal consumers of such chains. These plants must not only satisfy the needs within the ministry but also be prepared to supply chains to the plants of other ministries. Specifically, they must be able to supply spare parts to the existing automobile and truck park.

It will also be necessary to create two or three specialized bases for the production of crankshafts (small, large, and medium) to make possible the output of new diesel and stationary steam engines, as well as repairs of those which now exist.

While the use of conveyer and series production methods in machine building is constantly expanding, the necessary tool inventory is still made by hand or partially by hand in allost every plant. It is necessary to organize two or three plants for the production of dies, attachments, etc. This will result in greater savings of alloyed metals which are scarce, and will cut time and labor losses.

Machine building is now considerably restricted because of inadequate bases for the production of profiled steel and iron castings - for example, for the manufacture of turbines, compressors, presses, and large machine tools. Therefore, it will be necessary in the immediate future to create casting bases in the principal industrial centers of the country (Urals, Siberia, Donbass, Dnepropetrovsk, Povolzh'ye [Volga region], and Gor'kiy). This will permit re-smelting a large amount of metal waste in the form of shavings and strippings.

Such casting bases must be provided with modern equipment, molding machines, centralized reprocessing systems, and mechanized systems of supply to workers' stations, removal of moldings, and cleaning of castings. Such bases will make possible castings with smaller allowances, raise the proportion of usable castings, increase production per square meter of production area, raise labor productivity, and lower costs.

To reduce shipments over long distances, casting, pressing, and forging bases which do crude, mechanical stripping should be located near the metallurgical enterprises or in plants situated near them so that the large amounts of metal waste may be resmelted in the metallurgical furnaces.

In the field of cooperation, we must see to it that the parts and units produced for a given plant are manufactured insofar as possible in plants located in the same oblast or in a neighboring oblast.

Specialization and cooperation constitute reserve power for the further development of socialist machine building, which will insure not only an additional growth of potential but a substantial improvement in the quality of production.

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